Band 55 protein

```
                10         20         30         40         50
ISR     MESAEEPLPARPALETEGLRFLHVTVGSLLASYGWYVLFSCILLYIVIQK
MOUSE   -DRD----S-@------S-*----------------I-----------R
RAT          ---S--------S-----------------I----V--------
HUMAN   --RQ--S-S--------------T-------T----IV-------V-F--

                60         70         80         90         100
ISR     LSVRLRALRQRQLDQADAVLEPDAVVKRQEALAAARLRMQEDLNAQVEKH
MOUSE   --L-------------ET-----V--------------------------
RAT     --L-------------E------V--------------------------
HUMAN   --A-----------R-A-AV---V-------------K---E--------

               110        120        130        140        150
ISR     KEKLRQLEEEKRRQKIEMWDSMQEGRSYRRNPGRPQEEDGPGPSTSSSVT
MOUSE   ----------------------------K--S-------------/---I
RAT     ----------------------------K----------------/---I
HUMAN   ----K--------------------K--KG-AKK-----S-----/---L

                160        170        180       189
ISR     RKGKSDKKPLRGNGYNPLTGEGGGTCAWRPGRRGPSSGG
MOUSE   P-----------G-------------S------------
RAT     P-----------G-----
HUMAN   /-R---R-----G-----S-----A- S------------
```

@=R or S
* = R or O
A= mixture of A and V

Figure 1

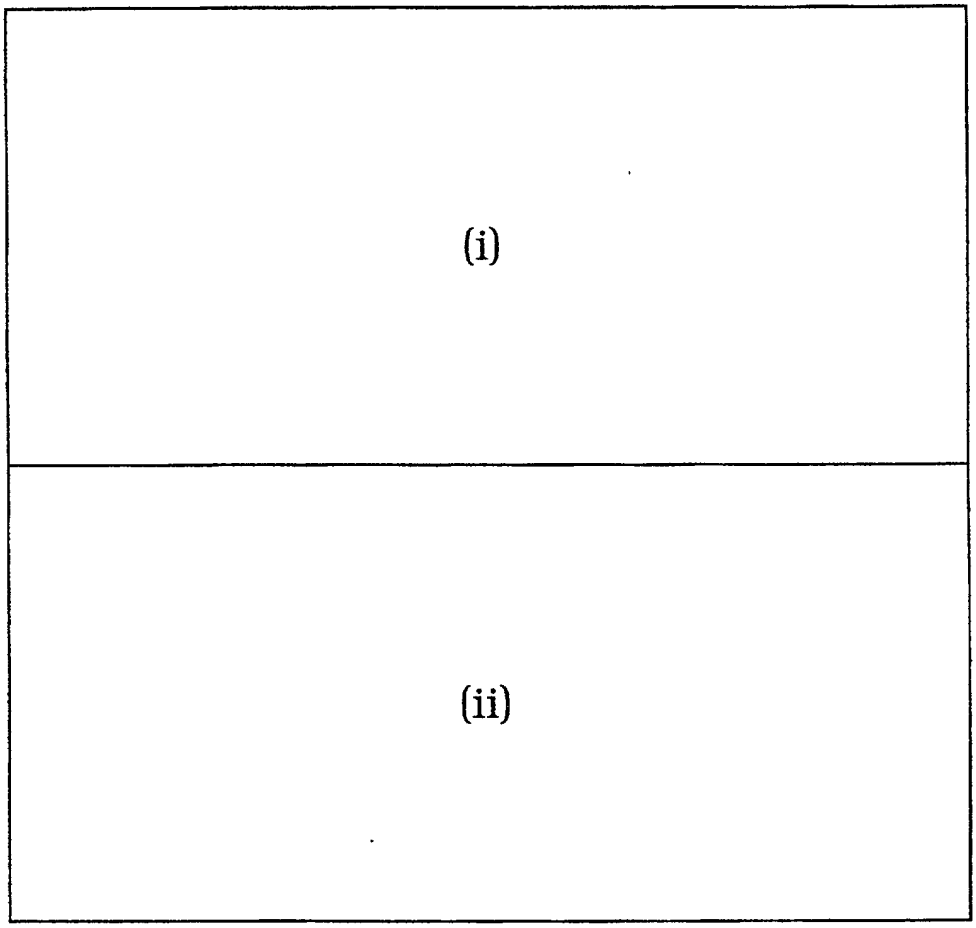

Figure 2

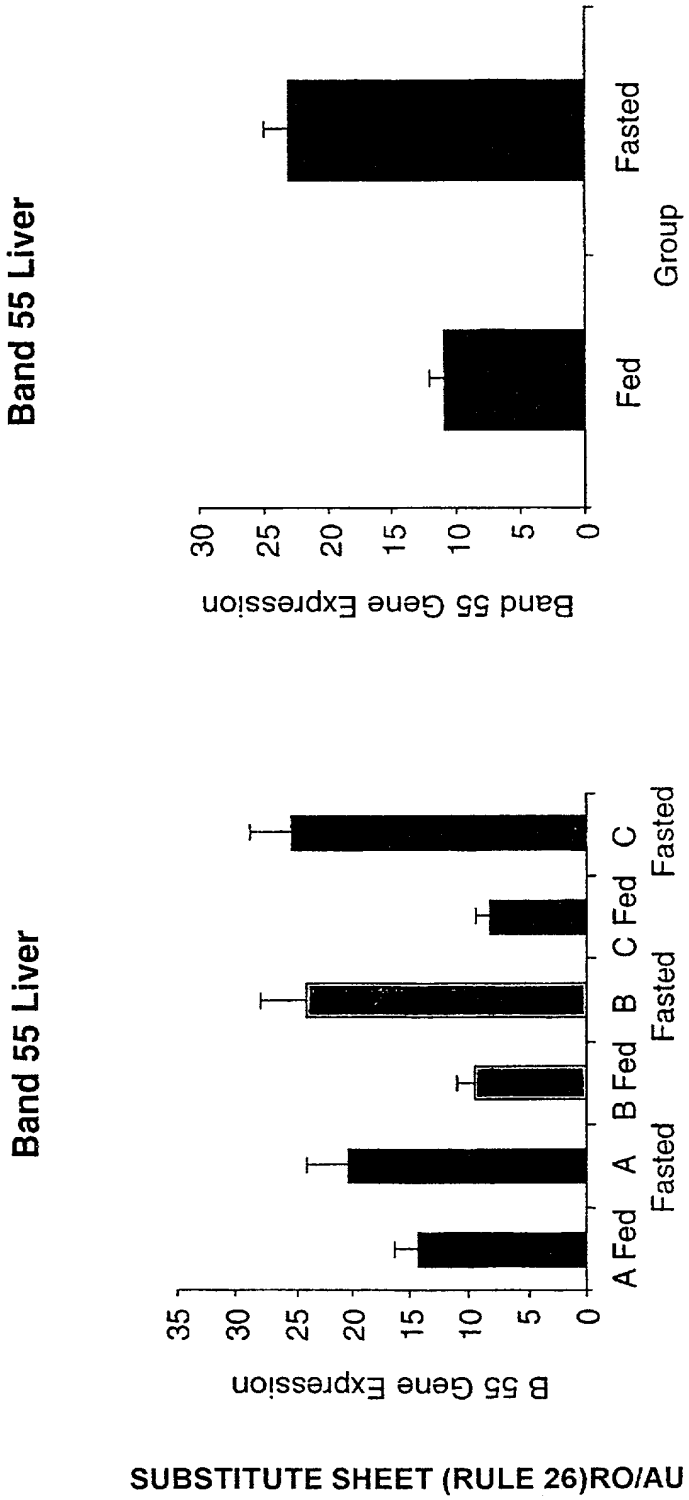
Band 55 Liver
Band 55 Gene Expression
0
5
10
15
20
25
30
Fed
Fasted
Group
Band 55 Liver
B 55 Gene Expression
0
5
10
15
20
25
30
35
A Fed
A Fasted
B Fed
B Fasted
C Fed
C Fasted

Figure 2(i)

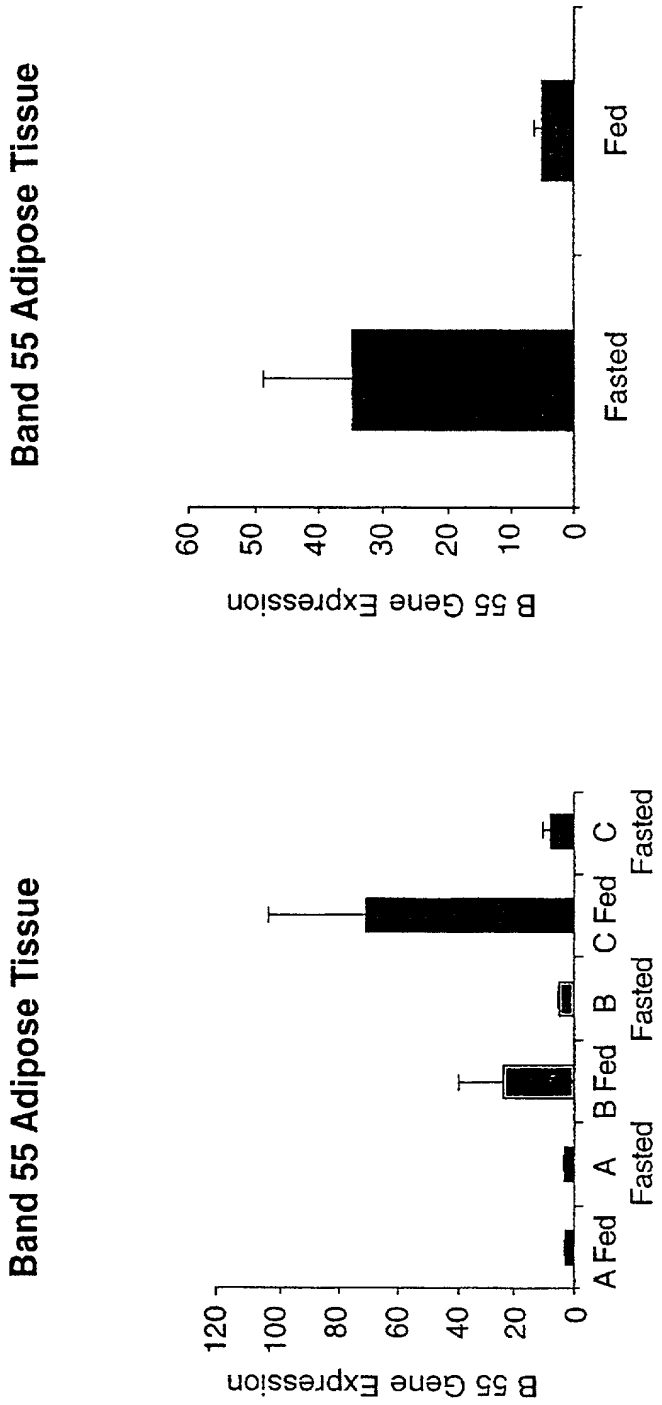
Band 55 Adipose Tissue
B 55 Gene Expression
0
20
40
60
80
100
120
A Fed
A
Fasted
B Fed
B
Fasted
C Fed
C
Fasted
Band 55 Adipose Tissue
B 55 Gene Expression
0
10
20
30
40
50
60
Fasted
Fed

Figure 2(ii)

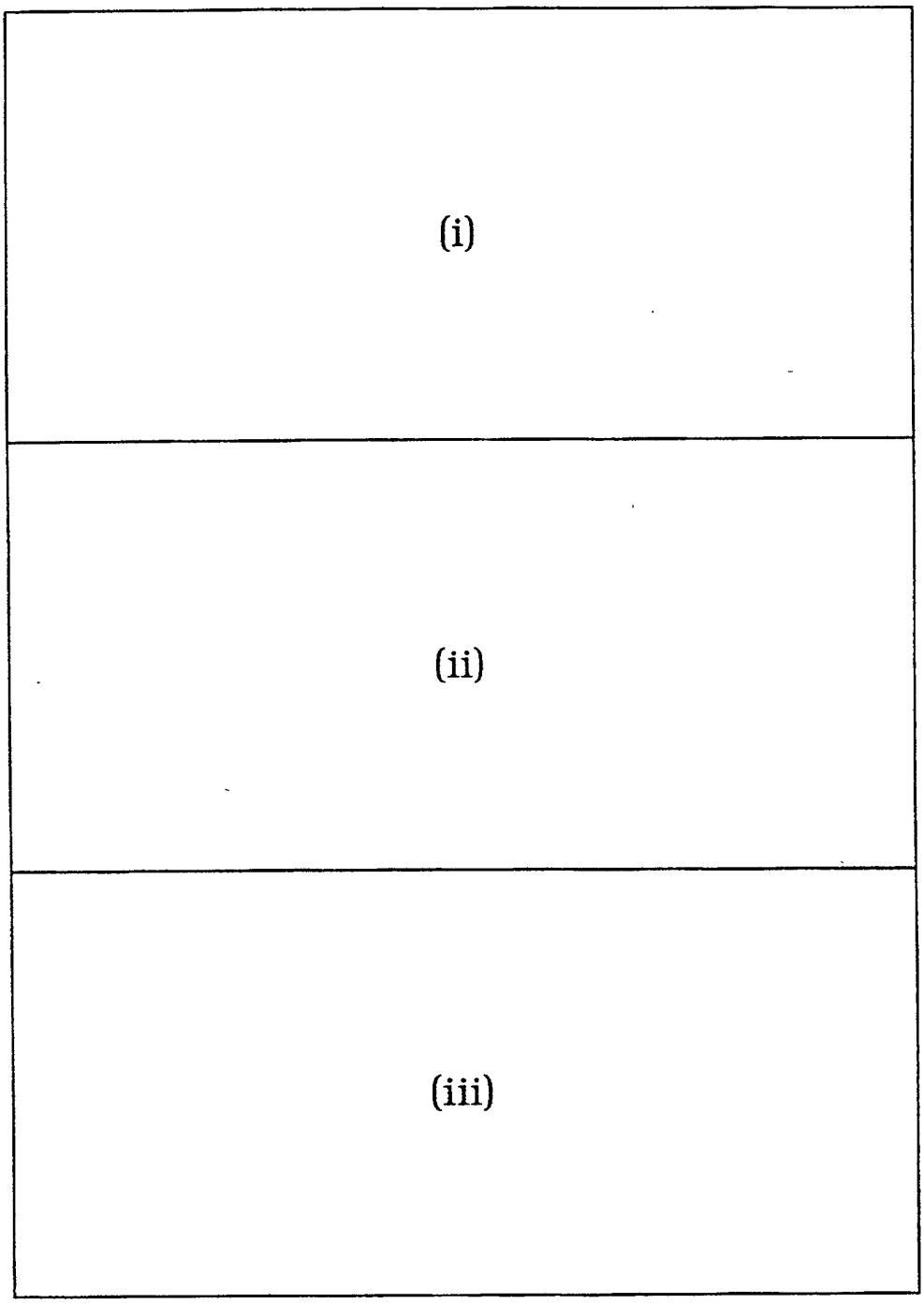

Figure 3

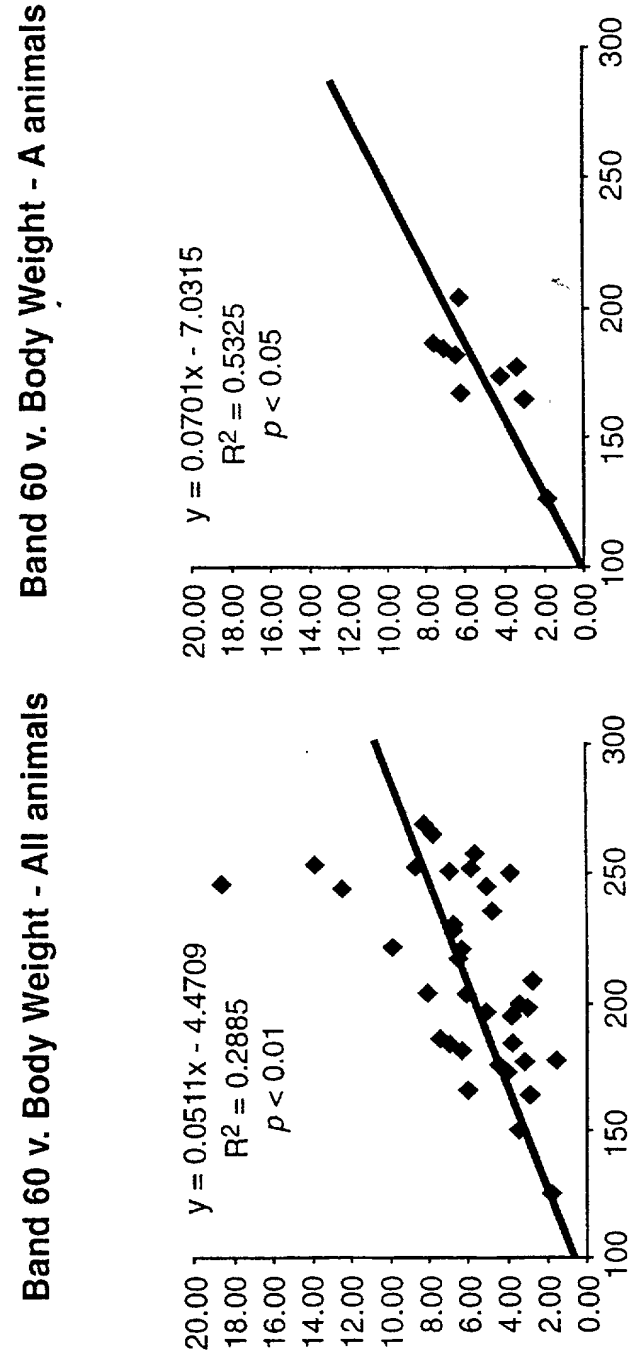
Band 60 v. Body Weight - All animals
y = 0.0511x - 4.4709
R2 = 0.2885
p < 0.01
Band 60 v. Body Weight - A animals
y = 0.0701x - 7.0315
R2 = 0.5325
p < 0.05
20.00
18.00
16.00
14.00
12.00
10.00
8.00
6.00
4.00
2.00
0.00
100
150
200
250
300

Figure 3(i)

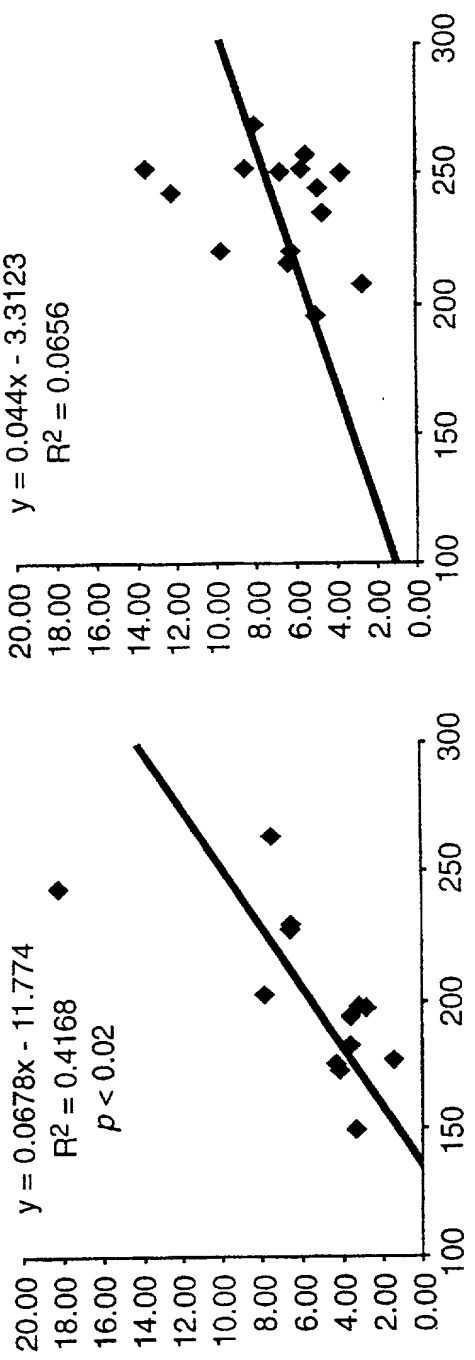
Band 60 v. Body Weight - B animals
y = 0.0678x - 11.774
R2 = 0.4168
p < 0.02
Band 60 v. Body Weight - C animals
y = 0.044x - 3.3123
R2 = 0.0656
20.00
18.00
16.00
14.00
12.00
10.00
8.00
6.00
4.00
2.00
0.00
100
150
200
250
300

Figure 3(ii)

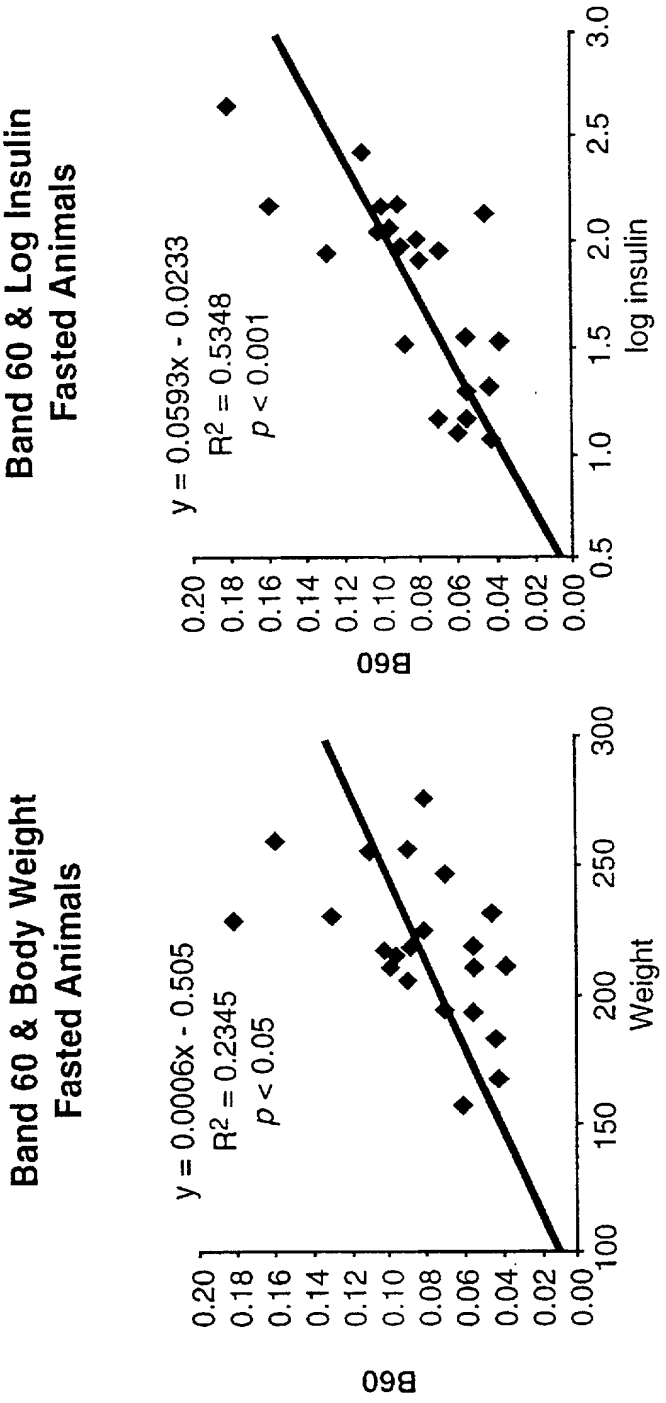
Band 60 & Log Insulin
Fasted Animals
y = 0.0593x - 0.0233
R2 = 0.5348
p < 0.001
B60
log insulin
Band 60 & Body Weight
Fasted Animals
y = 0.0006x - 0.505
R2 = 0.2345
p < 0.05
B60
Weight

Figure 3(iii)

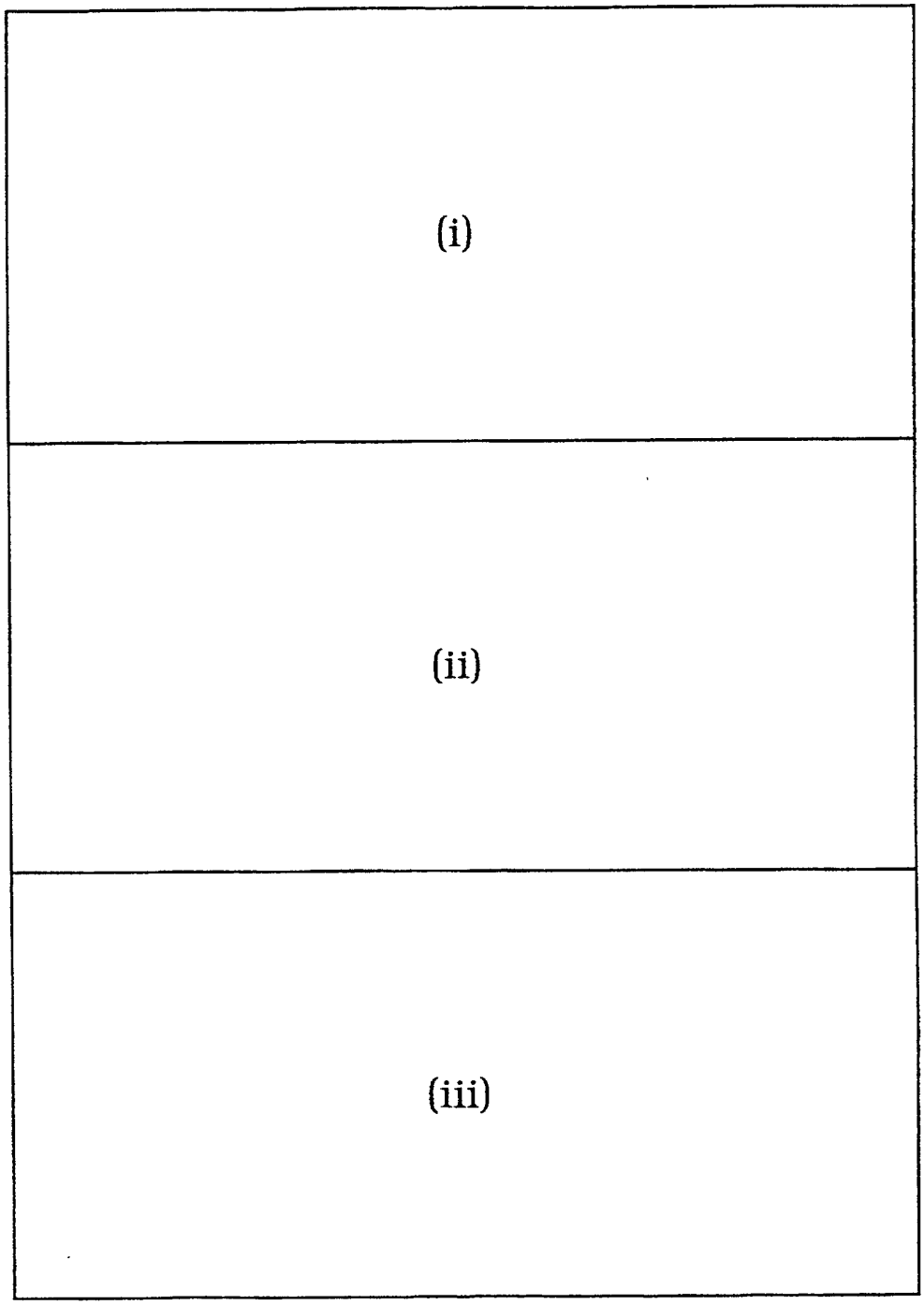

Figure 4

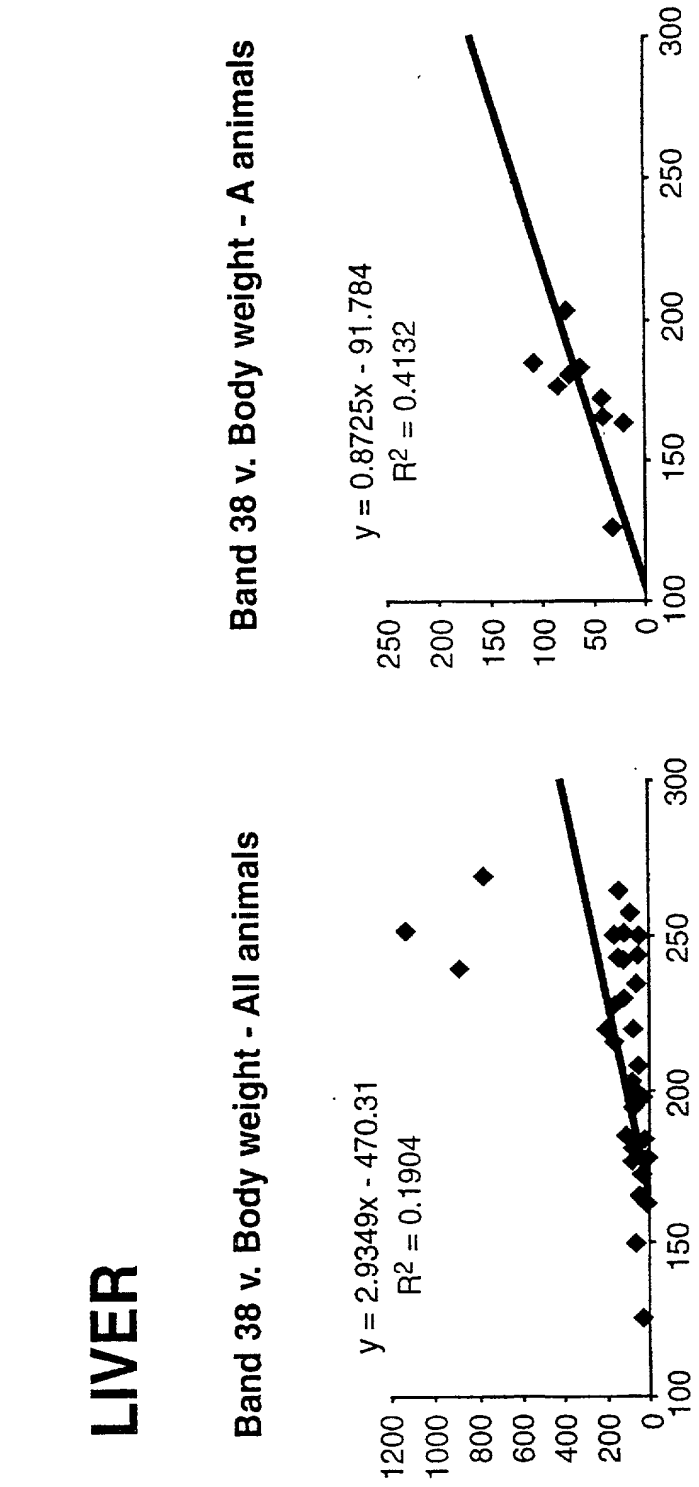
LIVER
Band 38 v. Body weight - All animals
y = 2.9349x - 470.31
R2 = 0.1904
1200
1000
800
600
400
200
0
100
150
200
250
300
Band 38 v. Body weight - A animals
y = 0.8725x - 91.784
R2 = 0.4132
250
200
150
100
50
0
100
150
200
250
300

Figure 4(i)

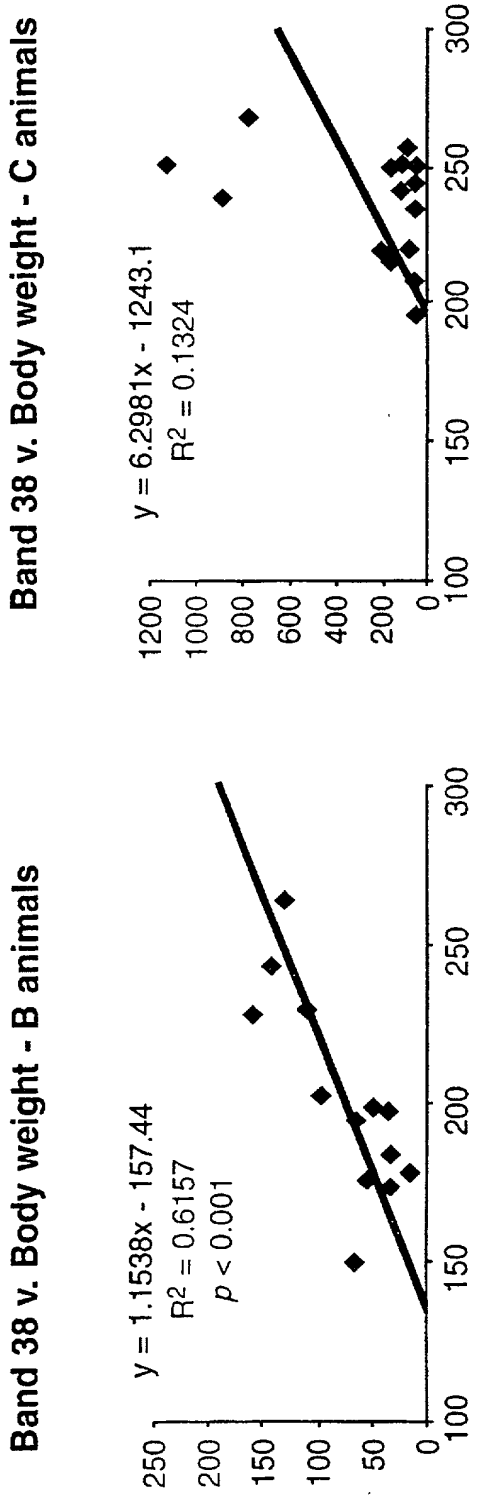
Band 38 v. Body weight - B animals
y = 1.1538x - 157.44
R2 = 0.6157
p < 0.001
250
200
150
100
50
0
100
150
200
250
300
Band 38 v. Body weight - C animals
y = 6.2981x - 1243.1
R2 = 0.1324
1200
1000
800
600
400
200
0
100
150
200
250
300

Figure 4(ii)

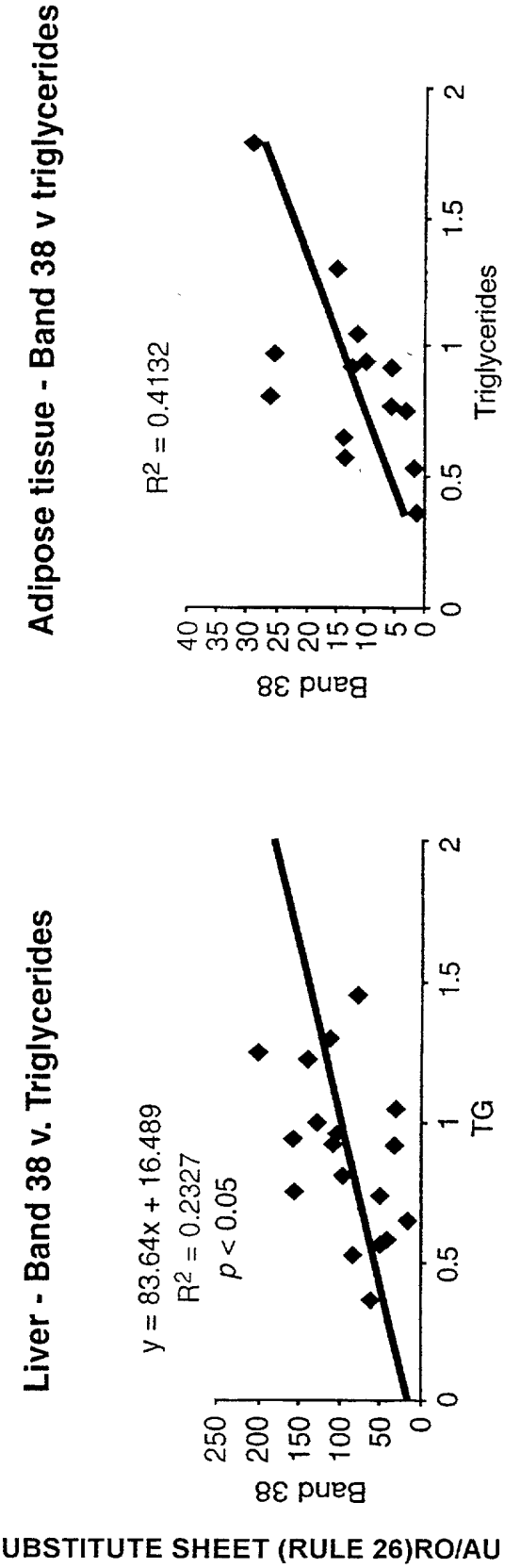
Liver - Band 38 v. Triglycerides
y = 83.64x + 16.489
R2 = 0.2327
p < 0.05
Band 38
TG
Adipose tissue - Band 38 v triglycerides
R2 = 0.4132
Band 38
Triglycerides

Figure 4(iii)


Genomic structure of the human band 55 gene
Chromosome 15
Exon 1
106 nts
666 nts
Exon
135 nts
1179 nts
Exon 3
107 nts
573 nts
Exon 4
90 nts
96 nts
Exon 5
76 nts
1563 nts
Exon 6
660 nts

Figure 5

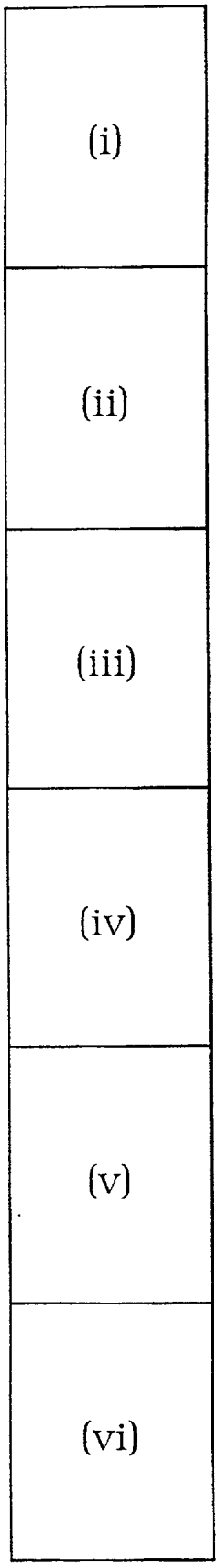

Figure 6

```
  1  CAGGGCTGGG CGGCGGCGGC GGCGGCGGTC ATGGAACGCC AAGAGGAGTC
     ↑                                ↑
     Transcription initiation site    translation start codon
     start exon 1
 51  TCTGTCCGCG CGGCCGGCCC TGGAGACCGA GGGGCTGCGC TTCCTGCACA

101  CCACGGGTGA GTCGTTGCGG GGCAGCCGGG CGCGCGCCGC CACTTTTGCG
          ↑
          end exon 1

151  ACGCGCAGCC ATGATGGGTG GGTCGTCCGC CGCTGCACCG GGCGCCGGAG

201  CCTGGGAGGC CTGGGAACGG TCGGGCGTTG GCGCTTACGC GGACCTTGGG

251  CAGCAGGCCC GGACCTTGCG CGGAGGCTTC TCGGGAGCCG CACTTCCCTG

301  GGCGGCTCGG CTGTCCCTTG TTTGCGCAAG TCTTTTTTGC GAACCAAGCC

351  CTTCCTGTGG TAGTTACTGG GGTCACTCGG CCGTTGGCGT TTGCCTCTGG

401  GACCCGTCCC ACACAGCCCC ATACACACTC CTGACTCCCC GCGCTGTCAC

451  CCCTTTCTAT GTGGCTCTGA AAGGCCTTTG CCTTCCTGAT TCAGATTAGT

501  TGCTCTTCAT TCTTCAAAAC CCAGTTGCTG TGCCCTCCAC ACTCTAACTG

551  CCCCCGACTC CCCAGATGGT TGGGAAGTCT CACTTCTCAG TGATCCCTGA

601  ATTGTCGCAC TTCTTGAGTT CGTGTTTTAA CGATCTACTT AGGAGGCTTT

651  TTCCTCAGCC TAGACCATGA AGGCTTTGAG GGCAGGAGTT ACACTTTGTG

701  TTTGTTGAGT CTTATGGAAA GGTCAACTAG TAGTGTCATT TTTAGTTTTT

751  TGAAAACTGT TTTTCTTTTC AGTGGGCTCC CTGCTGGCCA CCTATGGCTG
                             ↑
                             start exon 2

801  GTACATCGTC TTCAGCTGCA TCCTTCTCTA CGTGGTCTTT CAGAAGCTTT

851  CCGCCCGGCT AAGAGCCTTG AGGCAGAGGC AGCTGGACCG AGCTGCGGCT

901  GCTGTGGGTT AGTGCCTGAT AACCGAAATG AAAGCGGTGG TTTTGCACCT
          ↑
          end exon 2
```

Figure 6(i)

```
 951  CCTTTATATT AAGAGTTAGT CTCTTAGTAA AAGTAAGAGG GGCCACACAG
1001  GAAGACCCTG TCTCTATTTA AAAAAAAAAA AAATAGCCGG GAGTGGCGGC
1051  ACGCACCTGT AGTCCCAGCT GCTCAGGAGG CTGAGGCGGG ATAATCACTT
1101  GAGTCCAGGG AGTCAAAGCT GCAGTGGGCT ATGCTCGGGC CACACTACAC
1151  TCCAGCCTGG GCAATTGATT GAGACCTTGT CTTTAAAAAA AAAAAAAAAA
1201  AAAAAGTAGG AAGTATATGG TTCTCGGTGG GGCGCGGTGG CTCACACCTG
1251  TAATCCCAGC ACTTTGGGAA GCCGAGGCAG GAGGATGACT TGAGGTCAGG
1301  GGTTCGAGAA CAGCCTGGCC AACATGGTGA AACCCTGTCT CTACTAAAAA
1351  TACAAATATT AGTGGGGCGT GGTGACGGGC ACCTGTAATC CCAGCTATTA
1401  GGGTGGCTGA GGCAGGAGAA ATCGCTTGAA CCTGGGAGCT GGAGATTGCA
1451  GTGAGCTGAG ATTGTGCCAC TGCACTCCAG CCTGGGCAAC AGAGTGAGAC
1501  TGTCTTTTCT TTCTTTTTTT TTTTTTTTTC TATGAGATGG AGTCTAGCCT
1551  TGTTGCAAAG AGCGAGACTC TATGAGTAGA CGTTATGAAT AGAAATGAGT
1601  TCATTTCTAT TCATAATGCT ATTTGGAAGG ATTTTTCTTT TCTGTAGAAA
1651  CAAATACTTA AGAATCTTCT GCGCTAATTA AGGGATGGAT AATGATTTAG
1701  AAAACTTTAT ATTTCCTTGG TAGTCTTCCA GGATTCTAGT CAGCCTAGAG
1751  ACTGTGGGTG TCACTGAGGT ATCCAAGATG TGCTCTGTGT GGCCACTATC
1801  CCAGGCTTTA TGAATCGGAA TTGCTCAGGG GAACTCAGAA ATTGGCATTT
1851  CTAACAGATT TCTGGTGATG TAGATATTTC GGGCTAAAAT CCGTGGCTCA
1901  GCAACAGACC CCTGCCCCCT GAAGCAGTAA AATGTATGCA GAGGGGTTAG
1951  GAGTACTTAT GTAAAAATAT GTTGTTTCAT TGTCTGATAT CCATACCTCT
2001  TTATACTTTT AATAATATGG ACACTCAAAA GTTTCTATTT TATATTGTAC
```

Figure 6(ii)

```
2051  ACAGTGCTTT ATCTCCATTT TTTTCTGACA TTTTAGAACC TGATGTTGTT
                                          start exon 3

2101  GTTAAACGAC AAGAAGCTTT AGCAGCTGCT CGACTGAAAA TGCAAGAAGA

2151  ACTAAATGCG CAAGTTGAAA AGCATAAGGA AAAACTGAAA CAAGTATGAA
                                                  end exon 3

2201  CTGGTTTCAG TTTGAATGTG TGCATAGAAA TTGTCTGAGG TTTAGTGGCT

2251  AACGATGCCT GTGTCTGTGT TGTCTATAAG CTTCTAGGAC CAGGTCCTAT

2301  CCCATTAGAT TCAATAAGCA TTTCAGTTCC TACCATGTAA GTATTGGTGA

2351  TATCAAGAAG AATACACGAT TGTTAGGGAA CACTAGATGT GTGAATATAT

2401  TACCATGAAA GGTCCAGAGC ACAAAAGGAG GGACAGGCTG GAGCAGGGAG

2451  CATGTGAGTG TGTGTGTGCA TGTGCCTGTG TCTTCCCCAT TACCAAAAAT

2501  GTCCTGACAG GAGTGAGTTT CAGAAGAATG GAGTCAGTAA TCTTTTTCAT

2551  GAAACATTTT GCTTTCTTTA ATAGTGTACA AAAACCAAAG CTGCTCTATG

2601  TGAGTTAAAC TCACACTACC AGATCACAAC AGTTTTATTA ACTAAAGAAA

2651  ACGAGGGTGA AGTTTGTTCT GAAAGACATT TAAATTAAGA ATTATCAGAG

2701  TTAGCTTTGT CTTTGAGAGA AATGGCAGCT TCTGAATTCT TTCTGTAAAA

2751  TGTGATTGTT TCTCAGCTTG AAGAAGAAAA AAGGAGACAG AAGATTGAAA
                           start exon 4

2801  TGTGGGACAG CATGCAAGAA GGAAAAAGTT ACAAAGGAAA TGCAAAGAAG

2851  CCCCAGGTGA CTGGAGACCT CGGCCGGCTG GCATGCGGTA GATGAAGATT
          end exon 4

2901  GCCAAGTAGA ATGTTTTAAT TGCTTCTTAC ACTACTGTGT GTGTTCAAAC
```

Figure 6(iii)

2951 AGGAGGAAGA CAGTCCTGGG CCTTCCACTT CATCTGTCCT GAAACGGAAA

start exon 5

3001 TCGGACAGAA AGCCTTTGCG GGGAGGAGGT AAGCACCACT GATGTCAAAT

end exon 5

3051 GTTAACAGAT TTTCAACACT TACAGGATAT AGTTACCTTT TAAGAACAAG

3101 ATTGTTTGTT TCTTTGTCCA TAAATTAAGA CTAATTCCTT AGGATTGTGA

3151 AGATTCAATA AAGGAAACAG ATGCAAATCA CCTCCTAGGT CCTCACTAAG

3201 TACTTAGAAG GATTGTACTT ATAGTATTCT AACTTGATCC TTCTGCAGCC

3251 CCGTAGAGGG AGAGCTAAGT AGGGTGAGGA ATTGTCTGCC AATCTTCAGA

3301 TGAGTGTCAA GGAGCTGGAA CACAGTGGTT TTGGTCTTTC TGGCTGGGAC

3351 CACCTTGTTT CTTGCAAATA ACAAGGAGTA GCAGACAGAT GCTCATCCAA

3401 AGCTGCTTCC TGTGTGCAGC ACTGCCCCGG GGACTCTGGA TGATGCCACA

3451 GCAGTCTGTC TTCATCCCAT CCCTGAGAAT TTCAAATCTG GGAAGATGGG

3501 ACTCACAAAC GAAAATAAGC AATCCTTGGT GATTCTGGCT AAGAGTTGCA

3551 AGTTACTGCT GAGGAAGGAA AGAACAAACA CACTAGAACA CTGTAGGAAC

3601 CAAGGCGGAA GATTTTGTAT CCTCCATAGG AGGAGAGGGG CACCGCAGAG

3651 GCCCTGATGG TGTCTTTGAG GACTGAGGAA AGACTGGGGC ATGGGCTCCA

3701 AGGCAGCAGG GCCACAGACT TGGCTGACCT TAAACGCTGA GCTGTAATCC

3751 CCTTTGTGTC AGAAGACTAA ACCTGGCTTG CTGTAGAGAA GGTGATGCAT

3801 CTGGAAAGAA AATGCTATTT TTAAATGGTC CTGCCGGAAG CTTATTTTTA

3851 GACACATAGA GGTGATATTT AGGAGAGGAA TGGAAATCGT AGAAGATGGA

3901 ATGCAGGGTG TGCTTGCCTG CACGGCCTCT TTCAGCATCC CCAGCATTTC

3951 TGAGCTGGGA CTTTTGACTA GCCTGGCTTT ACAAATAAGG AAACTGAGGC

Figure 6(iv)

```
4001  ACAGTGTTTA ATTGCCCAAA GATTCCACTA TAAGTAAGGA GTAAAAGTAA
4051  CATTTAAGTT CTGGGTGGCC CTAGAACCTT AGCACTCAAC CAGGTTACCA
4101  GTTGTGCACT GACTTTGGGA AGCTCATGAG GGAGTGGGGT GGTTGGGGGT
4151  AGGGAAGGAT ACAGAAGACC CCGTTCTGAC TGGTAGAAGT GACAAGTTTG
4201  ACTCTTGATT TTTTTTAATC TGTTTTCTGT AGCGTGAACA GCCCTTATTT
4251  GAATGTATGA GTTTTAGTAA GCACTGTGAT AGGAGGATTC ATATACTTAA
4301  ATCAGGCCCT CTTGAGAGAG TTTTTTGGTG ACCCTTTTGC ATGTGTTTCG
4351  GAGGTTGGGA CAAAGAAGCT GAATGACTTT TTTCCCCACC AGACAATCAG
4401  TTCAAATGGC AATCACAATA TAAAGGTTTT TTTTTTTTTC ACATAGCTAA
4451  AAGGTTTTTT TAAATGTCCC TTAGGATCTG TATCTTTGCA GTGCTTTGCG
4501  TGTCACTCTC ATAATTTTAT TGTGGATATA CAATGTTCCC AGATTTTCAG
4551  ATTTTTATCA ATACTGTTGT GCTGCTTTTC TGTCCTCCCA GGTTATAACC
                                                 ↑
                                          start exon 6
4601  CGTTGTCTGG TGAAGGAGGC GGAGCTTGCT CCTGGAGACC TGGACGCAGA
4651  GGCCCGTCAT CTGGCGGATG AGGCTAAGAA TCTTGTTAGT GTCACTTTTG
                           ↑
                  translation stop codon
4701  ACATTAGCAA GATGAACCCT TAACCCTCGA TTCAATTGCC TTACGCACGC
4751  TTTTCACAGT GACTAGCCAA GGGGAGGTGG GGTTGATTTC TGTTCCTAAC
4801  TACACCTGCA TATGTCAGGG CTCCAGTCAG CAAAAGGTAT AGATGTTGCC
4851  TCTAGGCATG AGGTCATTGG TCACATTCTA CTTGGAGACA GTGATTGCAT
4901  TCATTGATTT CATGGTTAAT TGCTAGTTGG TAGGTAAAGG CCTCTAGATG
4951  ATTAGCAATC TTGATAAAAG AGGCCTAGTA ATGTTCTTTT GAGGTTAGAA
5001  ATCCTTGCTG CTAGGACAGT CTCTGTGACA GGTTGCGTTG AATGATGTCT
```

Figure 6(v)

5051 TCCTTATCAA TGGTGAGCCC ACCAGTGAGG ATTACTGATG TGGACAGTTG

5101 ATGGGGTTTG TTTCTGTATA TTTATTTTTA TGTACAGAAC TTTGTAAAAA

5151 CGAAACTATT TAAAAAACAA GAATAACATT TTTAGCATCT TTATTCAAGG

5201 AGATTTATGG ACTTCAATTT GTCTATCAAA CATTAAATAG CTTTTTATTA

5251 C

↑

transcription termination site

end exon 6

Figure 6(vi)